



## SPANISH-ENGLISH CODE-SWITCHING AS RULE-GOVERNED BILINGUAL BEHAVIOR\*

Almeida Jacqueline Toribio

University of California, Santa Barbara

### Abstract

Few characteristics of bilingual speech have inspired as much popular and scholarly interest as code-switching, the alternating use of two or more linguistic codes in a single conversational event. Of particular interest for the present discussion is intra-sentential code-switching, which demonstrates grammatical regularities, reflecting underlying, unconscious syntactic principles. Introducing code-switching data into the discussion of Universal Grammar, as advanced in the Chomskyan Principles and Parameters framework, Belazi, Rubin and Toribio (1994) argue that the coherence and co-occurrence restrictions attested in Spanish-English code-switching may be captured by reference to the Functional Head Constraint, proffered as a general principle of Universal Grammar. The present work seeks to lend further corroborating empirical evidence to this syntactic-theoretical construct. The empirical assessment of the Functional Head Constraint is accomplished through the administration of tasks designed to access linguistic competence—a grammatical acceptability questionnaire and an introspective linguistic survey. In concluding that the patterns of language alternation in bilingual speech are predictable by reference to a construct elaborated in the context of Chomsky's Principles and Parameters theory, the work demonstrates that the domain of a theory of linguistics, and syntax in particular, should encompass data on code-switching.

### 1. Preliminary Overview

Code-switching (henceforth, CS) refers to the ability on the part of bilinguals to alternate between their linguistic codes in the same conversational event. Contrary to common assumptions, CS is most frequent among proficient bilinguals, and may indeed be the norm in many bilingual communities. CS may be inter-sentential or intra-sentential, as exemplified in the Spanish-English sentences in (1a-b), respectively. (For ease of exposition, the Spanish portion of code-switched sentences appears in italics throughout.)

- (1) a. *Llegamos a los Estados Unidos en los 60s.* New York was our home.  
'We arrived in the United States in the 60s. New York was our home.'
- b. Code-switching among bilinguals *ha sido la fuente de numerosas investigaciones.*  
'Code-switching among bilinguals has been the source of numerous studies'

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Inter-sentential CS is motivated by social and discourse considerations; intra-sentential CS, on which we focus attention here, is additionally constrained by properly grammatical principles.<sup>1</sup>

Intra-sentential CS is to be distinguished from related phenomena, such as borrowing and tag-switching. Borrowing, shown in (2), represents the introduction of individual lexical items into a recipient language; the loan words may be partially or wholly assimilated with respect to phonological and morphological form into the host language. Tag-switches, illustrated in (3), serve a pragmatic role, functioning as sentence fillers or revealing a speaker's attitude towards the content of an utterance (e.g., expressing doubt, conviction, inquiry, confirmation); tags may be phrases, clauses, or particles, and typically occur at phrase or clause boundaries.

- (2) *El estudiante leyó el libro en el* reference room.  
'The student read the book in the reference room.'
- (3) It is raining a lot these days, *verdad?*  
'It is raining a lot these days, isn't it?'

As illustrated, loan words and tags are inserted from one language into a sentence that is otherwise entirely in another language. As expected, these linguistic phenomena are routinely evidenced among both monolingual and bilingual members of a speech community. In contrast, CS, as in (1), is limited to speakers with a high degree of bilingual competence.

The status of intra-sentential CS had been much in dispute. Some linguists viewed it as indicative of imperfect language acquisition or interference. However, later studies have revealed that intra-sentential CS demonstrates grammatical regularities, reflecting the operation of underlying syntactic restrictions. That is, bilinguals may be shown to exhibit a shared knowledge of what constitutes appropriate CS; for example, Spanish-English bilingual speakers will agree that the sentences in (4) represent possible code-switches, whereas those in (5) do not, although they may be unable to articulate exactly what accounts for this differential judgment.

- (4) *Toda mi familia* speaks English well.  
'All of my family speaks English well.'
- (5) \*As many as five of my cousins have *completado estudios universitarios*.  
'As many as five of my cousins have completed university studies.'

Moreover, speakers render these judgments in the absence of overt instruction—bilinguals do not learn how to code-switch. And yet, just as monolingual native speakers of Spanish and English have an intuitive sense of linguistic well-formedness in their language, Spanish-English bilinguals are able to rely on unconscious principles in distinguishing between permissible and unacceptable code-switches. In research on monolingual codes, this linguistic awareness is assumed to constitute part of a speaker's genetic endowment, appropriately termed Universal Grammar (UG). As put forth in Chomsky (1981) and developed elsewhere, UG is a set of abstract and general principles assumed to be adequate for characterizing core grammars of all

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<sup>1</sup>The reader is referred to Gumperz & Toribio (1998) for a brief overview of CS, and to Milroy & Muysken (1995) for an in-depth, cross-disciplinary perspective.

natural languages. The question arises as to whether the syntactic coherence and co-occurrence restrictions which are attested in bilingual CS should be characterized by reference to this same innate system.<sup>2</sup> In approaching this issue, the ensuing discussion explores the grammatical patterns which underlie CS, with the goal of delimiting those syntactic principles most relevant for its characterization and explicating these syntactic constraints within current syntactic-theoretical models of linguistic competence.

## 2. Syntactic-theoretical Proposals for the Constraints on CS

In recent years considerable attention has been devoted to exploring CS in the context of Chomsky's Principles and Parameters theory. These investigations seek an explanatory adequacy which was lacking in earlier, more descriptive formulations (cf. Gingrás 1974, Timm 1975, Pfaff 1979, Poplack 1980), by exploiting universal principles and relations which are hypothesized to characterize monolingual competence. Most evaluate the extent to which the data attested in CS can be predicted by, and in so doing support, the constructs of linguistic theories. This line of inquiry was initiated by Woolford (1983), who develops a generative model of bilingual CS. According to Woolford, the two component grammars of the bilingual individual remain separate, just as they do in monolingual speech, but when a bilingual generates a code-switched utterance, each grammar contributes part of the sentence (cf. also Woolford 1984). Since then, syntactic-theoretical studies of CS have grown significantly in number and scope. Working within this generative model, DiSciullo, Muysken and Singh (1986) propose that CS is restricted by the 'Government Constraint,' drawing on this X-bar-theoretical hierarchical relation in disallowing CS between particular elements in bilingual speech. On this structural account, elements which stand in a government relation (the governor and governee) must share the same language index, i.e., the government relation entails language-coindexation.<sup>3</sup>

Continuing in this generativist vein in their investigation of CS, Belazi, Rubin and Toribio (1994) propose the 'Functional Head Constraint' (henceforth, FHC) a feature matching principle of UG. In positing this well-formedness condition, Belazi et al. appeal to the well-established distinction between functional categories, such as COMP and INFL, and lexical categories, such as V and N. In particular, these authors invoke the special relation thought to exist between a functional head and its complement, one to which Abney (1987) refers as 'f-selection,' in constraining CS:

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<sup>2</sup>As expressed by Bhatia & Ritchie (1996:645), the challenge in research on CS "is not whether or not it is subject to grammatical constraints but how best to capture these constraints and how to make deeper claims about human language in general and bilinguals' mixing competence and their language acquisition in particular."

<sup>3</sup>Numerous researchers have argued that while DiSciullo et al. may be correct in proposing that code-switching is constrained by general principles of syntactic coherence that hold true of all language, the formulation of this configurational constraint in terms of government is incorrect, as it proves overly restrictive, ruling out permissible switches—e.g., the juncture between a verb and its object is a frequent switch point in bilingual speech.

- (6) The Functional Head Constraint (Belazi, Rubin and Toribio 1994)  
The language feature of the complement f-selected by a functional head, like all other relevant features, must match the corresponding feature of that functional head.

According to Belazi et al., the FHC is a specific application of the general process of feature checking which holds between a functional head and its complement. In this way, constraints on CS are universal, local, and hierarchical, limited to the relation that holds between heads and their complements. (For further discussion on the syntactic-theoretical status of the language feature, consult Toribio, this volume.) The operation of the FHC is evident in Spanish-English CS: as exemplified in (7-9), CS is disallowed between the functional heads which articulate INFL (e.g., MOD/AUX, NEG) and their complements, and, as shown in (10-11), a similar relation holds of the functional head COMP and its IP complement, and between the functional head QUANT/NUM and its NP complement.<sup>4</sup>

- (7) \*The president will *dirigirse al público*.  
'The president will address the public.'
- (8) \**El joven fue* jailed for his crimes.  
'The young man was jailed for his crimes.'
- (9) \*Dos colegas no *submitted trabajos para el congreso*.  
'Two colleagues did not submit works for the conference.'
- (10) \*The professor said that *nosotros somos buenos alumnos*.  
'The professor said that we are good students.'
- (11) \**Los diecisiete* children from the valley were absent from school.  
'The seventeen children from the valley were absent from school.'

While switching between a functional head and its complement is predicted to be ill-formed by the FHC, switching between a lexical head and its complement is predicted to be permissible. This prediction is borne out in the Spanish-English CS data: (12-14) demonstrate CS between the lexical head V and its complements, and (15-17) demonstrate CS between P, N, and A and their complements.

- (12) *Los niños pidieron* pillows and blankets.  
'The children requested pillows and blankets.'
- (13) *Nuestro decano se presentó* for the position of Chancellor.  
'Our dean presented himself for the position of Chancellor.'

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<sup>4</sup>Omitted from consideration here are switches between determiners and nouns, an omission which is well-motivated. As nouns are the most frequently borrowed category of words, it proves difficult to determine whether a cross-linguistic pairing of determiner and noun is representative of borrowing or CS. For example, MacSwan (1997:172, fn 64) suggests that contrary to the FHC, "English determiners may often precede Spanish nouns: The *borracho* who came to dinner yesterday *se tomó toda la tequila* ('The drunk who came to dinner yesterday drank all the tequila')." I maintain that in the context of this example, *borracho* is a single noun insertion, which is more appropriately interpreted as a borrowing.

- (14) The visitor said *que en su país no se pagan impuestos*.  
'The visitor said that in his/her country they don't pay taxes.'
- (15) underneath *la cuna del niño*  
'underneath the baby's crib'
- (16) *un nuevo título* for the manuscript  
'a new title for the manuscript'
- (17) very proud *de sus éxitos*  
'very proud of his/her successes'

The FHC additionally predicts the occurrence of switching between a subject, which occupies the Specifier position of INFL, and its complement I', which may host the verb in INFL. Indeed, the switch between subject and predicate is a very common switch boundary in bilingual speech. In addition to the code-switched subjects already noted, the data in (18) exemplify switching of subjects in predicate adjective and predicate nominal constructions.

- (18) a. Central Texas *es muy caluroso y húmedo*.  
'Central Texas is very hot and humid.'
- b. *Nuestro maestro de química* is a pharmacist too.  
'Our chemistry teacher is a pharmacist too.'

Lastly, the FHC correctly predicts that adjunct modifiers to phrases and clauses may be switched: (19) presents an example of switching of restrictive relative clauses, (20) demonstrates switching of adverbial clauses, and (21) illustrates switching of a dislocated (base-generated topic) phrase.

- (19) the Mexican short story *que me contó mi padre*  
'the Mexican fairy tale that my father told me'
- (20) *Tomemos una siesta* after dinner.  
'Let's take a siesta after dinner.'
- (21) *Las remolachas*, I don't like them at all.  
'Beets, I don't like them at all.'

As observed, the distinction between functional and lexical categories which is central to linguistic theorizing is also centrally implicated in CS.<sup>5</sup> The reformalization of f-selection as the FHC not only succeeds in capturing the observed patterns of grammaticality in code-switched utterances, but does so in a fashion which is consistent with more general considerations of theoretical syntax and with the view of CS espoused here: language alternation in bilingual speech is constrained by the same principles which are operative in monolingual speech. We thus take for granted that the FHC has been laid out correctly in the Government and Binding

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<sup>5</sup>For further discussion of the syntactic-theoretical validity of the FHC within the Minimalist Program, see Rubin & Toribio (1995), Toribio & Rubin (1996a,b), Toribio (1998a,b,c), and Toribio (this volume).

framework, and we furthermore assume that this universal principle, of a quite abstract sort, will account for a broad range of CS data.<sup>6</sup>

### 3. Reaffirming the FHC: Corroborating Experimental Evidence

As elaborated by Belazi et al., then, the FHC is held to underlie linguistic competence; it is a universal syntactic-theoretical principle which is operative in monolingual and bilingual modes alike, though it finds additional, more visible evidence in CS.<sup>7</sup> The study to be detailed seeks to lend further evidence to this construct as characterizing CS competence among Spanish-English bilinguals.

Thirty-four Spanish-English bilingual speakers participated in the study. All participants were enrolled in an upper-level Hispanic linguistics course at the University of California, Santa Barbara. The selection of this population for participation in the study is well-motivated. First, although there were some differences in Spanish- and English-language proficiency among the subjects, all were functionally bilingual, having completed upper-division coursework in both Spanish and English. Second, as students of Hispanic linguistics, they were well acquainted with the notions of linguistic competence and well-formedness which would be central to the study, and would be less apt than the uninitiated layperson to rely on prescriptive norms in rendering their judgments on CS sentences.<sup>8</sup>

A grammaticality judgment questionnaire was designed and administered to the thirty-four participants.<sup>9</sup> Unlike the traditional grammaticality judgment task, the sentences were

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<sup>6</sup>In this regard, it merits noting that the FHC has been shown to account for CS between languages which are typologically dissimilar, e.g., Arabic-French CS (Belazi et al. 1994), Hindi-English CS (Bhatia & Ritchie 1996), and Japanese-English CS (Toribio 1998b).

<sup>7</sup>There are, nonetheless, counterclaims from other researchers, some working in cognate theories, others in versions of the Principles and Parameters theory, that should be addressed (cf. recent works by Mahootian & Santorini (1996), MacSwan (1997), and Nishimura (1997)). As further discussion would take us beyond the confines of the present paper, the reader is referred to Toribio (1998c), wherein I address some of these methodological, empirical, and theoretical problems which blur these recent research findings, demonstrating that the arguments offered to date in challenging the legitimacy of the FHC in characterizing CS cannot be considered valid.

<sup>8</sup>It merits emphasizing that goal of this work is the exploration of the linguistic competence of the 'perfect' native speaker, in this case, a balanced bilingual. While a truly balanced bilingual is an ideal, the term is employed to refer to a speaker who has native-like abilities in two languages. Thus, just as the linguistic patterns of a monolingual are measured against an idealized adult monolingual's native-speaker competence (Chomsky 1965), so too are the linguistic patterns of the bilingual measured against an idealized adult bilingual's native-speaker competence.

<sup>9</sup>Decisions concerning data collection and selection did not prove difficult, given the nature of the data which was the focus of interest. As expressed at the outset, the present work proceeds under the assumption that research on CS should be motivated by theoretical principles and methodologies drawn from formal linguistics.

presented in pairs, thereby drawing attention to the switch site, and participants were asked to render a judgment on acceptability, rather than on grammaticality. The questionnaire comprised twenty-two pairs of test sentences, incorporating switches from each language into the other. The paired sentences were identical, save for the juncture or direction of the code-switch. Participants were instructed to read each set of sentences carefully and indicate whether the (a) sentence was acceptable, whether the (b) sentence was acceptable, or whether neither sentence was acceptable (c). For example, in the sample in (22), (b) is predicted to be unacceptable by the FHC, as the switch occurs between the functional element MOD/AUX and its complement. Therefore, we expect that no participant will respond by indicating the acceptability of (b).<sup>10</sup> However, although the sentences are paired, the task before the speaker is a grammaticality judgment task, rather than a preference task. Thus, participants could find both sentences within the set acceptable, as was expected for some pairings.

- (22) a. *Los estudiantes han elegido* a new representative.  
 b. *Los estudiantes han* elected a new representative.  
 \_\_\_ (a) is acceptable \_\_\_ (b) is acceptable \_\_\_ (c) neither is acceptable

Of particular interest in corroborating the FHC is the acceptance of switching at the junctures of functional versus lexical categories and their complements. Accordingly, each pair of sentences included an item incorporating switching at the juncture of one of four functional categories (MOD/AUX, COMP, NEG, QUANT/NUM), one of four lexical categories (P, N, V, A), or at the juncture of adjunct clausal modifiers; the distribution of the items appears in Appendix A. All totaled, forty-four sentences were tested. The twenty-two pairs of sentences were randomized, and a practice item, incorporating a code-switch at the subject/predicate boundary (in both directions), was included to engage the participants in the task. The grammaticality judgment task was followed by an informal linguistic survey intended to furnish a general profile of their level of bilinguality.

A review of the results indicates that the FHC is operative in CS. As shown in (23), the bilingual participants demonstrated a distinct pattern of responses in evaluating the test items in which the same language was maintained across a functional element and its complement versus those items which incorporated CS across lexical categories and their complements.

- (23) 'Acceptable' responses across category types (n/%):

Functional		Lexical		Clausal	
MOD/AUX (n=136)	0/0	PREP (n=102)	86/84.31	SUBJ/PRED (n=68)	66/97.05
COMP (n=136)	4/2.94	NOUN (n=34)	25/73.52	ADJUN MOD (n=306)	299/97.71
NEG (n=136)	0/0	VERB (n=306)	286/93.46	TOTAL (n=374):	365/97.59
QUAN/NUM (n=136)	5/3.67	[ADJ (n=68)]	48/70.58]		
TOTAL (n=544):	9/1.65	TOTAL (n=442):	397/89.81		

<sup>10</sup>A (c) response is also consistent with the rejection of (b), however, this response category was intended to allow for subjects to reject CS owing to additional reasons, including extralinguistic factors.

No participant accepted switching between MOD/AUX and its complement or between NEG and its complement, and a small number indicated the acceptability of switching between COMP and its complement and between QUANT/NUM and its complement. In contrast, participants demonstrated a high rate of acceptance of switching across the lexical category PREP and its complement, across the lexical category N and its complement, and across the lexical category V and its complement. (However, a different pattern emerged for switching between the lexical element A and its complement. While we cannot explain why the acceptance rates are so drastically diminished in these cases, we note that switching in the context of adjectival modification was generally rejected.<sup>11</sup> We therefore omit these items from consideration in the totals in (23).) These findings strongly support the applicability of the FHC in Spanish-English CS and further demonstrate that grammaticality judgments provide a viable means with which to evaluate knowledge of UG constraints in bilinguals.

The linguistic survey affords additional insights into participants' linguistic competence. Of the thirty-four bilingual participants, all identified themselves as highly bilingual, as shown on the scale in (24).

(24)	S	S <sub>e</sub>	Se	SE/ES	Es	E <sub>s</sub>	E
Spanish				bilingual			English
	0	0	19	3	12	0	0

The emerging profiles, when considered in view of participants' success on the grammatical acceptability questionnaire, corroborate previous research which indicates that bilinguals with a higher degree of balance of competence in the two component languages exhibit a greater sensitivity to the nuances of different CS patterns than their more Spanish-dominant or English-dominant counterparts (cf., e.g. Lipski 1985, Poplack 1980, Zentella 1985, 1997).

#### 4. Conclusion

To recapitulate, participant responses on the CS grammatical acceptability questionnaire and the linguistic survey converge to suggest that bilingual speakers invoke grammatical principles in distinguishing between permissible and unacceptable code-switches. More importantly, these principles of syntactic coherence can be stated in syntactic-theoretical terms by an independently motivated universal construct: the FHC. These robust findings speak directly to criticisms concerning the empirical efficacy of the FHC: if the FHC were not operative, then our participants' CS judgments should be random and unmotivated. Thus, we maintain that Spanish-English bilingual speakers demonstrate knowledge of the linguistic principles that both license grammatical strings and disallow ungrammatical ones for CS. In addition, we argue that these findings underscore the value of judgment tasks in the investigation of complex and subtle data such as CS. The study thus makes a contribution to syntactic theory, advancing it with data from Spanish-English CS, and additionally reflects a current topic in linguistic theorizing, namely, how to access linguistic competence.

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<sup>11</sup>The generally low incidence of switching of adjectives is also noted in Poplack (1980), Lipski (1985), and Zentella (1997).



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## Appendix A: Distribution of items

- a. 4 items which tested switching at the Modal/Auxiliary  
e.g., Los estudiantes han elected a new representative.  
'The students had elected a new representative.'
- b. 4 items which tested switching at the Complementizer  
e.g., The clinic does not treat students that no tienen seguro médico.  
'The clinic does not treat students that do not have medical insurance.'
- c. 4 items which tested switching at Negation  
e.g., La biblioteca normalmente no opens on Sunday mornings.  
'The library normally does not open on Sunday mornings.'
- d. 4 items which tested switching at Quantifier/Number  
e.g., On this campus many estudiantes andan en bicicleta.  
'On this campus many students ride bicycles.'
- e. 3 items which tested switching at the Preposition  
e.g., Los estudiantes presentaron la obra delante de receptive audiences.  
'The students presented the work in front of receptive audiences.'
- f. 1 item which tested switching at the Noun (a nominalization)  
e.g., Parents' encouragement de sus hijos es muy importante.  
'Parents' encouragement of their children is very important.'
- g. 9 item which tested switching at the Verb  
e.g., Muchos departamentos tienen three hundred students in the major.  
'Many departments have three hundred students in the major.'
- h. 2 items which tested switching at the Adjective  
e.g., The student proud/proud de sus éxitos celebraba en San Antonio.  
'The student proud of his/her achievements celebrated in San Antonio.'
- i. 2 items which tested switching at the subject/predicate boundary  
e.g. The administrators ignored los gritos de los manifestadores  
'The administrators ignored the cries of the strikers.'
- j. 11 items which tested switching of various types of adjunct modifiers  
e.g. At public institutions pocos estudiantes se gradúan en cuatro años.  
'At public institutions few students graduate in four years.'